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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/639,926	08/12/2003	David Bruce Isaksen	Wideband-113/Tank-221	7253

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EXAMINER

HARPER, KEVIN C

ART UNIT PAPER NUMBER

2666

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

SK

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/639,926	ISAKSEN, DAVID BRUCE	
	<b>Examiner</b>	<b>Art Unit</b>	
	Kevin C. Harper	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 4-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 4-11 is/are allowed.
- 6) ☒ Claim(s) 12 and 15-18 is/are rejected.
- 7) ☐ Claim(s) 13 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 October 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

### ***Response to Arguments***

Applicant's arguments, filed October 12, 2005 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, the indicated allowability of claims 12 and 15-18 is withdrawn and a new ground(s) of rejection is made in view of Buchwald.

### ***Drawings***

Replacement drawings were received on October 12, 2005. These drawings are acceptable.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 12 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buchwald et al. (US 2002/0039394).

1. Regarding claims 12 and 18, Buchwald discloses an apparatus for plesiochronous synchronization of a sub network (fig. 1, item 102) to a hub network (item 100). Each network includes a clock (paras. 85-87; note: frequency determined by a clock - para. 25). The apparatus includes a symbol lock filter (fig. 19, item 314; para. 223) and a resampler (para. 8, lines 3-8). The symbol loop filter (para. 122, lines 1-4) comprises a short term phase error loop filter (fig. 19, item 1904; para. 223, lines 1-4; para. 217) to measure a short term frequency error, a long term frequency

estimator (item 1906) to estimate a long term frequency error, and a total phase error phase register (item 1908) to generate a total phase correction command (para. 220, lines 1-8) for advancing or delaying a sample timing (fig. 7A) to a modem front end (para. 5, lines 1-3; paras. 8-9) from each incoming signal having a maximum and minimum amplitude (fig. 4A).

2. However, Buchwald does not disclose the short term frequency estimator for determining an error for a single burst and the long term frequency estimator for determining error for at least two bursts. Although, Buchwald discloses that the error is determined for a duration according to received symbols (paras. 123 and 125). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to determine an error based on a burst or bursts of several symbols in the invention of Buchwald in order to properly synchronize a transmitter and receiver (Buchwald, para. 9).

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buchwald et al. (US 2002/0039394) as applied to claim 12 above, and in further view of Widmer et al. (US 5,265,128).

3. Buchwald does not disclose that the long term error is determined by linear regression. Widmer discloses long term averaging by liner regression (col. 10, lines 8-15). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use linear regression for long term averaging in the invention of Buchwald in order to provide an average or fit of several values or data points as is known in the art.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buchwald et al. (US 2002/0039394) as applied to claim 12 above, and in further in view of Li (US 2003/0138061).

4. Buchwald does not disclose that the long term error is determined by a moving average. Li discloses long term averaging by a moving average (para. 133, lines 4-6). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use a moving average

for long term averaging in the invention of Buchwald in order to provide an average or fit of several values or data points as is known in the art.

Claims 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Buchwald et al. (US 2002/0039394) as applied to claim 12 above, and in further in view of Love et al. (US 5,422,909).

5. Buchwald does not disclose that the long term error is determined by an exponential average operation. Love discloses long term averaging by exponential average operation (col. 11, lines 1-3). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to use exponential averaging for long term averaging in the invention of Buchwald in order to provide an average or fit of several values or data points as is known in the art.

#### *Allowable Subject Matter*

6. Claims 4-11 are allowed.

7. Claims 13-14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Harper whose telephone number is 571-272-3166. The examiner can normally be reached weekdays from 11:00 AM to 7:00 PM ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao, can be reached at 571-272-3174. The centralized fax number for the Patent Office is

571-273-8300. For non-official communications, the examiner's personal fax number is 571-273-3166 and the examiner's e-mail address is [kevin.harper@uspto.gov](mailto:kevin.harper@uspto.gov).

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications associated with a customer number is available through Private PAIR only. For more information about the PAIR system, see [portal.uspto.gov](http://portal.uspto.gov). Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Kevin C. Harper", is positioned above the printed name.

Kevin C. Harper

January 8, 2006